

ABSTRACT OF THE DISCLOSURE

A fuel cell system includes a fuel cell stack, a battery, and a control system. A power circuit couples the fuel cell system selectively between the fuel cell stack and the battery. The power circuit includes a battery supply switch responsive to a voltage across the fuel cell stack, and a stack supply switch responsive to an operating state of the fuel cell system. The battery supply switch uncouples the battery from an on-board power supply when a voltage across the fuel cell stack exceeds a first threshold voltage and couples the battery to the on-board power supply when the fuel cell stack voltage is less than a second threshold voltage. The stack supply switch couples power the fuel cell stack to the on-board power supply when in a running state. A diode-OR circuit couples the source with the highest potential to the on-board power supply.

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